

Mr. Robert Mosher
Water Quality Standards Section
Illinois Environmental Protection Agency
P.O. Box 19276
Springfield, Illinois 62794-9276

Dear Mr. Mosher:

Thank you for your January 24, 2006, letter to the United States Environmental Protection Agency (USEPA) regarding a proposed site-specific rule making to revise the total dissolved solids (TDS) criterion for portions of the Lower Des Plaines River affected the ExxonMobil Oil Refinery at Joliet, Illinois. In your letter, you requested that USEPA evaluate the information contained in the letter and provide a preliminary evaluation of whether or not the proposed site-specific rule making described in the letter would be consistent with the Clean Water Act (CWA) and Federal regulations if it were to be adopted by the Illinois Pollution Control Board (IPCB) and submitted to USEPA for review and approval.

There are three options for site-specific modifications of water quality standards under the CWA. These are site-specific criteria, permanent changes to the applicable designated use and associated criteria through a use attainability analysis and temporary changes to water quality standards through a variance. These are described in greater detail below.

- **Site Specific Criteria**

Site specific criteria are modified or alternative water quality criteria that provide a level of protection equivalent to the level the existing criteria are intended to provide. Site-specific criteria represent a scientific assessment of the maximum level of pollutants that can be allowed at a site without impairing the uses. For this reason, the uses are not altered or revised when a site-specific criterion is adopted. Site-specific criteria are permanent changes to the water quality criteria necessary to protect the use as it occurs at a site.

- **Change to designated uses**

Use changes occur when the designated use for a particular water body is not an existing use and is also not attainable based on one or more of the factors found in the Federal regulations at 40 CFR 131.10(g). Use changes are permanent changes to the use and associated criteria applicable to a specific site.

- **Variances**

Variances are temporary modifications of the use and criteria that apply to a site. Variances may be granted if the underlying use is not an existing use and the use and criteria cannot be achieved based on one or more of the factors found in 40 CFR 131.10(g).

Under the conditions of a consent decree between USEPA and ExxonMobil, ExxonMobil is required to reduce its air emissions. To comply with the consent decree, Exxon Mobil intends to install wet gas scrubbers. As a result of the new air pollution controls, the concentrations of sodium sulfate in the wastewater discharge from the refinery will increase. ExxonMobil is seeking a site-specific standard change of the TDS criteria for the Lower Des Plaines River from 1500 mg/L upstream of the I-55 bridge and 1000 mg/L downstream of the I-55 bridge to 1686 mg/L from the point of discharge to the confluence with the Kankakee River during the months of November to April. According to the letter, the applicable secondary contact and general use water quality criteria cannot be met under winter low flow conditions because of high upstream TDS loads resulting from road salting. The letter indicates that even without the additional TDS loading from ExxonMobil due to the wet gas scrubber effluent, the highest observed ambient TDS concentrations in the segment are 1595 mg/L, greater than either of the applicable water quality criteria. With the additional loading, the ambient concentrations under similar conditions are expected to be 1686 mg/L.

For a number of reasons, the information provided in the letter is insufficient to enable us to determine whether a site-specific water quality standard would be appropriate:

From the information provided in the letter, it is not clear whether the Illinois Environmental Protection Agency (Illinois EPA) considers this to be a site-specific criterion, use change or variance. Since the principle basis for the site-specific water quality standards appears to be the levels of TDS upstream of the discharge, the most appropriate action under the Federal regulations would seem to be either a use change or a variance.

The summary of the available data on the site, while helpful in understanding the issues, is not sufficient to demonstrate that the proposed action is consistent with the CWA and Federal regulations. While we understand that additional information will be forthcoming with the final draft petition from ExxonMobil, in the absence of this information, USEPA cannot fully review the proposal.

The submittal to USEPA should identify whether the site-specific water quality standard is being submitted as a site-specific water quality criterion, use change or variance.

We will need information on how the existing standard was calculated and how the new standard was calculated for TDS and how the new calculation still protects the designated

use. There are generally three procedures to deriving site specific criteria: Recalculation Procedure; Water-Effect Ration Procedure; and the Resident Species Procedure. These procedures can be found in the Water Quality Standards Handbook (EPA-823-B940005a, 1994). I believe that given the scenario provided that the Resident Species Procedure is the most applicable. Essentially we would need a study completed to demonstrate how the new standard was derived and why it would not have an adverse affect on the species that are expected to occur at the site in the absence of anthropogenic impacts on the biological community. This would also help address any anti-degradation issues. Unfortunately, without such information as resident species, species expected to be in the affected area, how the water quality standard change would or would not affect those species we are not able to comment on the proposed standard change.

Additionally, we found that you referred to other factors in your letter such as runoff from streets contributing to the degradation of water quality and the economic and technical infeasibility of reducing TDS by ExxonMobil. If the water quality standard can not be met due to economic reasons, then an economic feasibility analysis would need to be done and we may review it in the context of a variance submittal which is a temporary modification of the water quality standard. In addition to this, Illinois EPA may elect to complete a Total Maximum Daily Load allocation study if the largest contributor to TDS is from salting of the roads and not from ExxonMobil. While we understand that Illinois EPA has plans to remove the TDS standard from IPCB regulations, we will have to evaluate any request for site-specific water quality standards based on the standards actually in effect at that time. Finally, any request for revision to water quality standards should contain a certification in accordance with 40 CFR 131.6(e) by the State Attorney General or other appropriate legal authority within the State that the water quality standards were duly adopted pursuant to State law.

I hope this letter clarifies some of our needs and your options so that we can ensure all the necessary information is available prior to submittal. In the meantime, we will assess whether or not an Endangered Species Act Section 7 consultation will be necessary for the proposed water segment.

If you have any questions please feel free to contact Mari Nord at 312-886-3017 or Dave Pfeifer at 312-353-9024.

Very truly yours,

Jo Lynn Traub
Director, Water Division

